

REMARKS

Reconsideration of the present application, as amended, is respectfully requested. By this Response, Applicants amended claims 1, 35, 36, 39, 42, 43, 47, 50, 61, and 67-69, and added new claims 70-72, to clarify features of the present techniques and to correct typographical errors. Support for the amendments can be found in the specification on page 1, lines 7-10; page 3, lines 7 – 21; and page 5, line 9 – page 7, line 10. No new matter has been added. Moreover, new claims 70-72 are believed to be in condition for allowance. Lastly, claims 51-59 have been cancelled for possible inclusion in a divisional application.

Restriction

The Examiner restricted claims 1 and 35-69 of the application. Specifically, the Examiner restricted claims 1, 35-50, and 60-69 to Group I as being drawn to method of polymerizing PPS and claims 51-59 to Group II as being drawn to a method of making a solution of a sulfur compound. Although Applicants do not necessarily agree with the Examiner's reasons for restriction, on January 12, 2005, Applicants' representative, Michael Fletcher, elected to prosecute the claims of Group I. By this Response, the Applicants affirm the election of the claims of Group I. Therefore, again, Applicants have canceled claims 51-59 without prejudice for possible inclusion in a divisional application.

Rejections Under 35 U.S.C. § 112

The Examiner rejected claims 35, 36, 42-50, and 61-69 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Office Action, p. 3. The

Examiner asserted that Applicants added new matter in the previous Preliminary Amendment. *Id.* In particular, the Examiner stated that the “temperatures 118°C, 105°C, 110°C and 205°C do not appear in the specification or in the specification of the parent.” *Id.* (citing M.P.E.P. § 760.03(o) and analogizing that “new matter includes specific percentages within a broader disclosure”). Applicants respectfully traverse this rejection and the Examiner’s underlying assertions. *See, e.g., Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 227 U.S.P.Q. 177 (Fed. Cir. 1985) (holding that there is no *per se* rule that ranges in claims added in a continuation application must correspond exactly with those disclosed in the parent application).

However, in an effort to advance prosecution and to clarify features of the claims, Applicants amended the claims to delete or revise the specific temperature values that the Examiner contends, without adequate explanation, are new matter. Support for the present amendments to the claims can be found in the specification on page 6, line 12 – page 7, line 10. In view of these amendments, Applicants respectfully request the Examiner withdraw the rejection of claims 35, 36, 42-50, and 61-69 under 35 U.S.C. § 112 and allow the claims.

Furthermore, the Examiner rejected claims 39, 47, and 67 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner stated that the “specific compound named in these claims lack the necessary metal.” Office Action, pages 3-4. Applicants respectfully traverse this rejection, emphasizing that the solution or the metal salt do indeed comprise N-methyl-4-aminobutanoate. However, in an effort to advance prosecution, Applicants amended the three rejected claims to include the metal “sodium.” Support for this

amendment can be found on page 6, lines 4-11 of the present specification. Applicants respectfully request the Examiner withdraw the rejection of claims 39, 47, and 67 under 35 U.S.C. § 112 and allow the claims.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 35, 36, 42-50 and 61-69 under 35 U.S.C. § 102 as being anticipated by WO 01/49706 which is the parent of the present application. The Examiner rejected claims 42-50 under 35 U.S.C. § 102 as being anticipated by Senga (5,093,469). Lastly, the Examiner rejected claims 42-50 under 35 U.S.C. § 102 as being anticipated by Campbell (3,867,356). Applicants respectfully traverse these rejections.

Legal Precedent

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985); *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under section 102, a single reference must teach each and every element or step of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). A *prima facie* case of anticipation under Section 102 requires a showing that each limitation of a claim is found in a single reference, practice or device. *In re Donohue*, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985). Moreover, the prior art reference also must show the *identical* invention “*in as complete detail as contained in the ... claim*” to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989).

WO 01/49706 is Not Prior Art

Contrary to the Examiner's assertion, Applicants emphasize that no new matter was added in the Preliminary Amendment previously filed. Thus, the parent (WO 01/49706) of the present application is not prior art. However, the Examiner's assertions of new matter have been rendered moot.

The Examiner's assertions that Applicants added new matter are moot in light of Applicants' amendments to the claims which revise temperature values (discussed above with regard to new-matter rejection under 35 U.S.C. 112). In view of these amendments, it is clear that no new matter exists in the present application and that the parent (WO 01/49706) is not prior art. Accordingly, Applicants respectfully request the Examiner withdraw the rejection of claims 35, 36, 42-50 and 61-69 under 35 U.S.C. § 102 based on WO 01/49706 and allow the claims.

Features of Independent Claim 42 Missing from Senga

Independent claim 42, as amended, recites a method of polymerizing PPS, comprising "reacting an aqueous metal hydroxide with a polar organic compound . . . to form a *solution* comprising an alkali metal aminoalkanoate . . . *without isolating the alkali metal aminoalkanoate*; [and] adding a sulfur source to the *solution*." In contrast, the Senga reference discloses a separate non-polymerization process for manufacturing a purified, solid alkali metal aminoalkanoate. See Office Action, p. 4 (acknowledging "that Senga further isolates the sodium N-methyl amino butyrate into a dry state"). The Senga reference does not contemplate or disclose the act of reacting components in a PPS polymerization process to form an alkali metal aminoalkanoate intermediate

in solution, and contacting such a solution with a sulfur source. Instead, the Senga reference discloses the discrete preparation of solid alkali metal aminoalkanoate to be utilized in the polymerization reaction in a single reaction step. Senga, col. 6, lines 7-18.

Referring to Example 1 of the Senga reference, which the Examiner has cited, it is clear that the Senga reference demonstrates a separate process by which a purified alkali metal aminoalkanoate is prepared for later inclusion in a polymerization reaction. Senga, col. 7, lines 58-62. In particular, the Senga reference discloses the addition of benzene to form a product, filtering the resulting slurry of product, washing the residue, and then *drying* the alkali metal aminoalkanoate product. Senga, col. 7, lines 56-62. This example, and the remainder of the Senga reference, does not disclose the act reacting an aqueous alkali metal hydroxide with a polar organic compound to form a *solution without isolating the alkali metal aminoalkanoate*. Senga also does not disclose contacting such a solution with a sulfur source, as further recited in claim 42.

Accordingly, Applicants respectfully assert that it is clear that independent claim 42, as amended, and the claims dependent thereon, are not anticipated by Senga. Therefore, Applicants respectfully request the Examiner withdraw the rejection of claims 42-50 under 35 U.S.C. § 102 based on Senga, and allow the claims.

Features of Independent Claim 42 Missing from Campbell

As with the Senga reference, the Campbell reference does not disclose “reacting an aqueous metal hydroxide with a polar organic compound . . . to form a *solution* comprising an alkali metal aminoalkanoate. . . *without isolating the alkali metal aminoalkanoate*; [and] adding a sulfur source

to the *solution*,” as recited by claim 42. While the passage cited by the Examiner (col. 5, line 7-31) does mention a solution, it is clear that, like the Senga reference, the Campbell reference contemplates a separate process by which a *purified and solid* alkali metal aminoalkanoate is prepared. Campbell, col. 5, lines 53-59 and col. 6, lines 14-20. In particular, the Campbell reference discloses the addition of benzene to form a product, filtering the resulting slurry of product, washing the residue, and then *drying* the alkali metal aminoalkanoate product. *Id.* It should be emphasized that Campbell does not produce the alkali metal aminoalkanoate as an intermediate in a PPS polymerization process. Instead, the alkali metal aminoalkanoate is clearly a dry feedstock not generated in the Campbell PPS polymerization process. *See* Campbell, col. 1, lines 39-55; col. 2, lines 45-49.

In sum, in Campbell, quite the opposite of the instant claims, the alkali metal aminoalkanoate is *isolated*. Campbell does not disclose reacting an aqueous alkali metal hydroxide with a polar organic compound to form a *solution without isolating* the alkali metal aminoalkanoate, and then contacting the solution with a sulfur source. Accordingly, for these reasons, the Campbell reference does not anticipate claim 42 or the claims dependent thereon. Therefore, Applicants respectfully request the Examiner withdraw the rejection of claims 42-50 under 35 U.S.C. § 102 based on Campbell, and allow the claims.

Rejections Under 35 U.S.C. § 103

The Examiner alternatively rejected claims 42-50 under 35 U.S.C. § 103 as obvious over Senga. The Examiner also alternatively rejected claims 42-50 under 35 U.S.C. § 103 as obvious over Campbell. Further, the Examiner rejected claims 1, 35-50, and 61-69 under 35

U.S.C. § 103 over Senga in view of Koyama ('433). In addition, the Examiner rejected claims 1, 35-50, and 61-69 under 35 U.S.C. § 103 over Campbell in view of Koyama. Applicants respectfully traverse these rejections.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). To establish a *prima facie* case, the Examiner must show that the combination includes *all* of the claimed elements, and provide a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

Features of Independent Claim 42 Missing from Senga

The Examiner has failed to provide a difference, a modification, and an explanation which would support an obviousness rejection and which might be responded to by Applicants. As the M.P.E.P. notes in regard to rejections under 35 U.S.C. § 103, “[i]t is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the applicant can be given a fair opportunity to reply.” M.P.E.P., §706.02(j). In this instance, the

Applicants are unfairly prejudiced by not being provided what the Examiner considers to be the distinction between the reference and the claims, the proposed modification, and the presumed suggestion or motivation to make the modification as provided by the reference.

In regard to claim 42, the failure of the Examiner to provide the noted information precludes a *prima facie* case of obviousness from being established. Such a *prima facie* case must demonstrate some suggestion or motivation to modify the reference, a reasonable expectation of success, and that all the claim limitations are taught or suggested by the prior art reference. M.P.E.P., §706.02(j). Applicants respectfully submit that the Examiner will not, in future correspondence, be able to establish these required elements of a *prima facie* case based on the Senga reference. In particular, there is no suggestion or motivation within the Senga reference to modify the disclosed process to correspond to the recitations of claim 42. Likewise, considering the silence of the Senga reference as to any suggestion to modify the disclosed process, the Senga reference is also silent as to the likelihood of success of any such modification.

Finally, as noted above with regard to the rejection under 35 U.S.C. § 102, the Senga reference does not teach all of the elements of claim 42, nor does it suggest such elements. As indicated, Senga does not teach or suggest “reacting an aqueous metal hydroxide with a polar organic compound . . . to form a *solution* comprising an alkali metal aminoalkanoate. . . *without isolating the alkali metal aminoalkanoate*; [and] adding a sulfur source to the *solution*,” as recited by claim 42. *See, e.g.*, Senga, col. 2, lines 41-43 (explaining that the alkali metal aminoalkanoate is *used*); col. 4, lines 16-30 (expressing feed ratios of the alkali metal aminoalkanoate). Alkali metal

aminoalkanoate is not generated as an intermediate solution in the Senga polymerization process, but instead is isolated as a purified dry solid in a discrete and separate upstream process.

In sum, the Examiner has failed to establish a *prima facie* case of obviousness with respect to independent claim 42 and its dependent claims. Accordingly, Applicants respectfully request the Examiner withdraw the alternate rejection of claims 42-50 under 35 U.S.C. § 102 based on the Senga reference, and allow the claims.

Features of Independent Claim 42 Missing from Campbell

Applicants respectfully note that, as with the Senga reference, the Examiner has failed to include all of the required elements of an obviousness rejection and thereby failed to establish a *prime facie* case of obviousness to which the Applicants can respond. Nevertheless, with regard to claim 42, Applicants note that the Campbell reference also fails to provide a suggestion or motivation to modify the disclosed process to correspond to the processes set forth in the respective claims. The Campbell reference is also silent with regard to the likelihood of success of any such modification. Finally, as noted above with regard to the rejection under 35 U.S.C. § 102, the Campbell reference does not teach all of the elements of claim 42, nor does it suggest such elements. Again, in direct conflict with claim 42, Campbell teaches isolation of alkali metal aminoalkanoate. In sum, the Examiner has failed to establish a *prima facie* case of obviousness with respect to independent claim 42 and its dependent claims. Accordingly, Applicants respectfully request the Examiner withdraw the alternate rejection of claims 42-50 under 35 U.S.C. § 103 based on the Campbell reference, and allow the claims.

Features Missing Independent Claims 1, 42, 60, and 61 Missing from the Cited Combinations

Independent claim 1, as amended, recites “a solution having a reaction product of the metal hydroxide and the polar organic compound . . . *without isolating a solid from the solution.*”

Independent claim 42 recites “without isolating the alkali metal aminoalkanoate.” In stark contrast, as discussed, both of the primary references, the Senga and the Campbell references, disclose isolating solid alkali metal aminialkanoate from solution. Further, the Koyoma reference does nothing to obviate these deficiencies. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness with respect to independent claims 1 and 42 or their dependent claims.

Furthermore, independent claim 1 recites “the polyphenylene sulfide polymers comprise less than 55 ppm iron, less than 15 ppm chromium, or less than 15 ppm nickel.” Independent claim 60 recites “wherein polyphenylene sulfide polymers prepared in the metal reactor vessel contain less than 55 ppm iron, less than 15 ppm chromium, or less than 15 ppm nickel.” Independent claim 61 recites “polyphenylene sulfide polymers comprising less than 40 ppm iron, less than 7 ppm chromium, or less than 9 ppm nickel.” In sharp contrast, the cited references, taken alone or in combination, do not teach or suggest polymers having these low metal concentrations. Indeed, the references are absolutely devoid of any reference to corrosion and the associated metal contamination of polyphenylene sulfide polymers. Therefore, the Examiner has failed to establish a *prima facie* case of obviousness with respect to independent claim 1 and 42 or its dependent claims for this reason as well. Further, the Examiner has failed to establish a *prima facie* case of obviousness with respect to independent claims 60 and 61, or their dependent claims.

Accordingly, Applicants respectfully request that the Examiner withdraw the rejections of claims 1, 35-50, and 61-69 under 35 U.S.C. § 103 and allow the claims.

Dependent Claims

The dependent claims are believed patentable by virtue of the subject matter they separately recite and also because of their dependency on an allowable base claim. Accordingly, Applicants respectfully request the Examiner withdraw the rejections and allow the claims.

Request Evidence to Support Official Notice

In formulating the various rejections under 35 U.S.C. §§ 102 and 103, the Examiner recognized that the cited references contain many deficiencies in relation to the claimed subject matter. In an effort to cure these deficiencies, Applicant notes that the Examiner has essentially taken Official Notice of facts outside of the record that the Examiner apparently believes are capable of demonstration as being “well known” in the art. *See, e.g.*, Office Action, p. 5. However, the Examiner has not provided evidence to support these assertions. Further, Applicant emphasizes that the “well-known” facts asserted by the Examiner are not of a “notorious character” and are clearly not “capable of such instant and unquestionable demonstration as to defy dispute.” *See* M.P.E.P. § 2144.03. Therefore, in accordance with M.P.E.P. § 2144.03, the Applicant hereby seasonably traverses and challenges the Examiner’s use of Official Notice. Specifically, should the Examiner choose to maintain the rejections, Applicant respectfully requests that the Examiner produce evidence in support of the Examiner’s positions as soon as practicable during prosecution and that the Examiner add a reference to the rejections in the next Official Action. If the Examiner finds such a reference and applies it in combination with the presently cited references, Applicant

further requests that the Examiner specifically identify the portion of the newly cited reference that discloses the allegedly “well known” elements of the instant claim, as discussed above, or withdraw the rejections.

Conclusion

If the Examiner believes that a telephonic interview will help speed this application toward issuance, the Examiner is invited to contact the undersigned at the telephone number listed below.

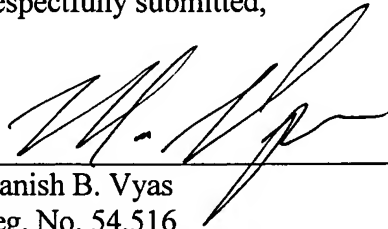
General Authorization for Extensions of Time

In accordance with 37 C.F.R. § 1.136, Applicants hereby provide a general authorization to treat any future reply requiring an extension of time as incorporating a request therefor.

Furthermore, Applicant authorizes the Commissioner to charge the appropriate fee for two new independent claims, as well as any additional fees which may be currently due, to the credit card listed on the attached PTO-2038. However, if the PTO-2038 is missing, if the amount listed thereon is insufficient, or if the amount is unable to be charged to the credit card for any other reason, the Commissioner is authorized to charge Deposit Account No. 06-1315; Order No. CPCMC:0002-1/FLE (33776US01).

Respectfully submitted,

Date: 4/13/2005



Manish B. Vyas
Reg. No. 54,516
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545

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